



# **CARNIVOROUS PLANT NEWSLETTER OF AUSTRALIA**

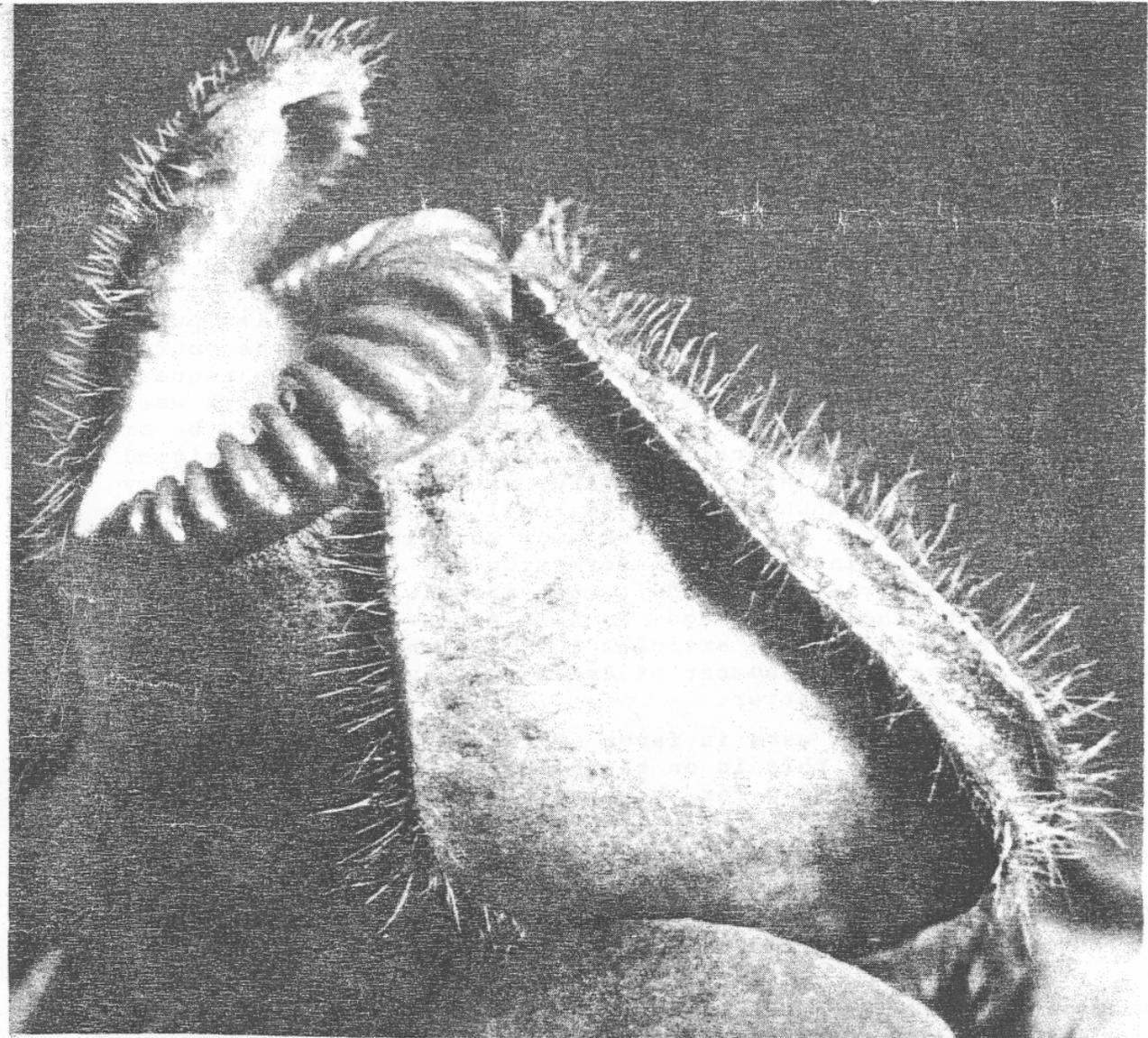


Volume 1.

June . 1979.

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## **CEPHALOTUS FOLLICULARIS**



HABITAT,  
ALBANY REGION  
WEST AUSTRALIA.

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AN INTRODUCTION FROM THE EDITORS.

Well here we are, slightly late, but never the less the first C.P.N.A. is now a reality, and with a little luck and a lot of help we hope we can go on to develop the newsletter into a publication equal to the excellent United States C.P.N. on which we've had to rely for so long for our C.P. information. Let us not say here that we can now do away with the U.S. C.P.N., we can't, we still as much as ever need the help of their newsletter, for here in Australia we are still in the embryo stage of C.P. growing and have a long way to go to catch our counterparts around the world. We would hope that those of you who don't already subscribe to the U.S. C.P.N. might consider doing so. Now that Australia has it's own newsletter we can perhaps concentrate largely on the many fine varieties of C.P. that grow here in our own country, and together collectively solve the many mysteries that surround these amazing plants and problems attached to growing them. The questionnaire we sent out showed 99% support for the newsletter, a very encouraging result. A good percentage disagreed with the name and suggested the change from Aust C.P.N. to C.P.N. of Australia, we realized the obvious mistake we had made, and made the change.

We would like to point out here, that the C.P.N.A. and its publishers are open to your criticism at all times, and look towards your suggestions to improve the newsletter. In regards to the request to subscribers to submit articles for publishing, the response was fair with many prepared to write in but afraid their work would be amateurish. Let me get another point across, this newsletter is not designed for only those who have a degree in botany, more so for the ordinary enthusiast and laid down in terms that all may understand. So no matter how amateurish you may think your work is, send it in for it is certain to contain valuable information for some growers. Even the most experienced grower will admit they are always learning and always ready to add to their knowledge. We have received offers from many U.S. C.P.'ers to contribute articles and we plan a section for their valuable information. A number of Americans have also offered to subscribe to the newsletter.

Most replies received were in favor of the Aust Seed Bank and a short note regarding this is on the seed bank page. Last but not least, a few simple rules mainly for the newcomers to the C.P. world, but meant for all.

- 1/ It is forbidden to write to growers asking for plants without the offer to buy or swap a plant(s) of equal value.
- 2/ The correct procedure for obtaining plants or seed is to use the Buy, Trade or Sell column.
- 3/ If you desire to enter into correspondence on an article you have contributed, then include name and address at the top of your write-up and we will publish it. If you do not wish to correspond on the matter then write your name only.
- 4/ All letters to the C.P.N.A. that require a personal answer must be accompanied by a S.A.E.

INTRODUCTION CONTINUED.

5/ To ensure your artical or request is published in each following newsletter, please have it to us at least 1 month before publication.

We would like to sum up by adding our thanks to those who rallied in the short time offered and sent us write-ups and articles for print to get this first issue off the ground. Also to ask those of you who offered in the questionnaire to contribute, to get out your pens and start writing, we need all the material we can get. We need your support to make this newsletter the success we are confident it will be.

Good Growing,  
Co-Editors.

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C.P.N.A. SEED BANK.

A fair response was received from experienced growers offering to donate their time to running the seed bank. We decided that the person most qualified for the job is Stephan Jackson of Victoria. Stephan is 22 years old and dedicated to growing c.p's. He has an excellent collection of c.p's at his home in Mitcham and has grown and studied plants for a number of years.

His interest in C.P's first began whilst undertaking the diploma of Horticulture at the Burnley Horticulture College. Part of the course was to write a thesis on any horticulture subject, he decided to study C.P's on a general scale, which blossomed into his full time hobby. Stephan is also a keen naturalist whose spare time hobbies include bushwalking and botany, mainly, restricted to native plants. Since the mention to Stephan of the need of a c.p. Seed Bank in Aust, he has on his own initiative been gathering information from the U.S. on seed packaging, care, storage and information related to the smooth running of the seed bank. A venture that will succeed if we all pull our weight, so come on, send him any excess seed you have of any varieties. The C.P.N.A. will acknowledge all donations of seed, and a quarterly list will be compiled and published.

Editor.

INTRODUCING STEPHAN JACKSON.

Hi there friends, I would like to say first of all how pleased I am that we now have our own Carnivorous Plant Newsletter, and knowing how much time and work Ken and Sue have put into making it a reality, believe that we should get behind them 100 % and make it work.

I am honoured to have been asked to run your seed bank and give you my assurance that I will run it to the best of my ability. I have been in contact with Mr Patrick Dywer who successfully runs the American Seed Bank, and he has offered his support and knowledge to help us succeed. Also, I have written to various C.P. Nursery's overseas and have received one promise so far of their excess seed in their fall. Fred Howell, of Carnivorous and Unusual Seeds, has offered to donate seed along with Phill Mann of Perth. Have had no offers from Exotic & Bizarre yet, (Hint Hint) but I'm sure they will come good.

My plans for running the bank are, until we get a good supply of seed anyway, a minimum of 1 doz seed per packet. Only one pack per species may be purchased, but you may buy as many different varieties as you like, considering of course, they are in stock. Please list substitute in case stocks are depleted, and include payment with all orders.

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CONT.

C.P.N.A. Seed Bank.

Cost of seed is 50 per packet.

Please print name and address clearly on order.

Correspondence must be accompanied by S.A.E. (this does not apply when ordering seed).

Cheques or money orders payable to ::

C.P.N.A. Seed Bank.  
Stephan Jackson. 478  
Mitcham Road. Mitcham.  
Vic. 3132.

Seed Donations.

Seed should be sent wrapped in tissue to absorb moisture. and if possible. wrapped in plastic. clearly marked and as free as possible from husks or other material.

*Steve Jackson.*

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LOOKING AHEAD.

We plan to publish a list of subscribers in a near future issue and to continue this, as a once a year up to date list.

We would like to run a feature page each issue, on a c.p. grower and his or her collection, similar to the write-up on Joe Mazrimas in this edition. If you have a collection you believe deserves a mention then write us in around 200 words, about yourself, your plants, and your set-up, enclosing a good quality photo with negative if possible.

ROBERT REIDL has expressed a desire to instigate a project around solving the apparent mystery that surrounds the frequent failure here and overseas with growing many of our native c.p.'s. Robert is prepared to give his time to study projects, setting objectives, suggesting techniques, collating data and results, which subsequently would be published in the C.P.N.A. Projects of this kind would be very much a team effort and the lead up to such an endeavor would naturally evolve from preliminary discussions in C.P.N.A. If enough interest was shown in these experiments, Exotic & Bizarre Plants would pledge the necessary plants and seed needed for the project.

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CIRCULATION TO DATE.

75 Subscribers.

A full list of subscribers will be published in the next issue.

# C.P. LETTERBOX.



The object of C.P. Letterbox is to enable subscribers to air there views on any subject ; e.g. C.P. News, C.P.N.A. criticism or ideas, Helpful Hints, Interesting Plant Developments, or any item that may be of interest to readers. We would like as many as possible to contribute to this section. Where possible, please keep News 200 words or less.

JOE MAZRIMAS : CO-EDITOR OF THE U.S. CPN WRITES : I think the idea of having your own communication device to get your growers together in one common unit is a good one, and I hope you receive many inquiries regarding such a newsletter. I think such a project may even help us out on acquiring more interesting articles about what C.P. growers are doing down south. Good Luck.

ROBERT REIDL OF N.S.W. WRITES : You have my fullest support with the Carnivorous Plant Newsletter of Aust, and I am sure that such a circulation will play it's part as a catalyst to get the C.P. movement going in Australia, and, once on the move, will keep all interested parties in contact with one another. At this stage I would like to suggest that you approach, with a letter of introduction, all Botany Dept's of our Universities and College's and Botanical Gardens, as I feel a lot of un-tapped potential regarding C.P. enthusiast's may be found there and we'll need all the support we can muster. Also, some showy articles and photographs in our top Gardening Magazines would help which brings me to an important point. Australia is one of the richest continents regarding C.P.'s, very few of which are, so far, successfully grown in cultivation. We all may be doing reasonably well in our gardens and glass houses with exotic C.P.'s, but as Australians we ought to make an effort to solve the apparent mystery that surrounds the frequent failure here and overseas with growing our own plants of prey. Such an endeavor would be truly worthwhile and would push our efforts into largely unknown territory, into something rather unique. But to succeed we have to have communication, co-operation, and an Aust Seed Bank etc And I feel that our own C.P.N. is going to assist us in this task.

FRED HOWELL\_ 3 NORMANDY AVE, PARA HILLS. S.A. 5096 WRITES : Has any member of C.P.N.A. had experience of growing seed of Dionaea or other c.p's using standard Agar, as the medium? I should be interested in corresponding with any person with knowledge on this subject.

JIM FOREST OF NEW ZEALAND WRITES : I wish you well with your efforts ~~as~~ I think there is still a lot to be learnt about the c.p's in our area. I've quite a big collection generally, but have found it difficult to germinate some of the W.A. seeds, although the real problem is to get the seed.

G. HANNA OF NEWCASTLE WRITES : I hope you are successful with this, but I must say that I doubt the viability of this enterprise. I can't help but remember the vast indifference of everyone when I was first interested in c.p's about 17 years ago.

Cont. Over.

CONT.C.P. LETTERBOX.

MRS B. DAVEY OF N.S.W. WRITES: As you say a long awaited newsletter and greatly appreciated. I am happy to subscribe and to contribute drawings, small articles, etc. I am only a beginner as yet, with hardly a collection at all, but have a keen interest.

ALAN & LYN WORLAND 13/2 PEARSON ST, BALMAIN EAST. N.S.W. 2041 WRITES: We have only discovered c.p's in the last few months but we have caught the bug and are truly fascinated. We've found out how difficult it is to find any information on them, so are very pleased at the efforts with regards to the newsletter. Alan & Lyn wish to correspond with other growers. They are keen on all c.p's so anyone interested drop them a line or phone them, on Sydney 832-433.

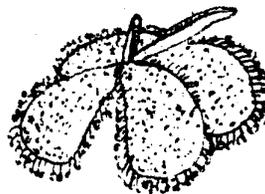
ALAN JARY OF S.A. WRITES : I have read with interest Shigeo Kurata's book of Nepenthes and the latest American C.P.N., in particular Joe Mazrimas's beginners corner. I am growing my c.p's in a glass case with the potted plants standing in moist sphagnum moss (PH 4-4 which seems rather low? ). Relative humidity is 100% and I have a covered 25W light bulb, switched on at night, inside the case to provide extra warmth, and temperatures which seem to stay about 15c during our coolish 8c winter nights. I am encouraged therefore, by Joe's article which states that Nepenthes may be grown in temperatures as low as 7c.

JOHN EMERSON 12 AUTHUR ST, PORT PIRIE. S.A. WRITES : I would be happy to invite people interested in c.p's living in my area, or passing through, to call in and see my collection.

STEVE JACKSON OF MITCHAM, VIC. WRITES : Where the U.S. C.P.N. lacks I believe, is that they give too little propagation information. In Australia where c.p's are fairly new, we need to spend a lot of time on this area, so we can expand C.P. nurseries in our country. Probably we could ask people to write about plants that they specialize in. That way we will get more accurate information.

FRANK LUDRIKS & TONY DUNNE OF SYDNEY WRITE: We would like to extend an invitation to c.p'ers of their area to call and see their collection and chat on c.p's. To contact us, please phone Sydney 4514135 for Frank or 452-2431 for Tony.

THE EDITORS ADVISE THAT the C.P.N.A. is urgently in need of good quality c.p. photographs or negatives to enable a bank to be built up. All photos will be returned after a copy has been taken. We could also use good sketches. We would also like to remind you to send in more material for the newsletter as we have managed to use up all we had in hand for this issue, so to avoid a blank issue next publication, START WRITING.



A CO-FOUNDER OF CPN IN THE UNITED STATES.

Joe Mazrimas is a co-editor and founder of Carnivorous Plant Newsletter in the United States which was started in 1972. His hobby of growing these fascinating plants began 17 years ago when he purchased his first specimen of Dionaea or Venus Flytrap. This plant lasted about two weeks and eventually rotted away. However, Joe was not discouraged but instead he visited his local library to find out how to grow and propagate these plants. He was much more successful with his second plant, and with giving better drainage and more sunlight, he was able to grow his plant for many years so that it eventually flowered the following spring.

This first experience with such a fascinating plant prompted Joe to seek further information about other carnivorous plants that existed in nature. His library research indicated there were many more plants such as sundews, pitcher plants and butterworts which interested him and he found several sources of these plants in various horticultural magazines. With various purchases of plants and exchanges with other CP collectors, Joe eventually built up his collection to over 200 different species and hybrids.

Over the years, Joe had to extend his greenhouse twice to contain all the plants that he grows so that today his greenhouse is 9 feet by 20 feet. Half of his greenhouse is heated which contains Nepenthes and the tropical Drosera's along with seedlings of other CP species. The unheated portion of his greenhouse contains the North American species of CP and species that require cool night temperatures to grow. The Sarracenia species and hybrids grow in an outside area where they receive much sunlight and opportunity to trap plenty of insects. As a result, the plants flower profusely in spring when Joe pollinates them for seed. The seed is sent to the seed bank where they are packaged and sold to other collectors. The money earned from this endeavor is applied directly to the costs incurred from publishing the newsletter and allows us to add more colour photos and pages to CPN.

Joe's hobby or is it an avocation keeps him pretty busy with not only growing the plants but also trying to keep up with research with seed germination and propagation techniques. He is currently working on the long term project of acquiring the rarest species of carnivorous plants in order to grow them and find efficient ways to propagating them so other collectors may enjoy growing them also. The more we know about these plants, the better off we will be in the long run. There are many species which are reaching the status of becoming extinct in nature and as a biochemist, Joe is trying to apply his research experience in discovering new methods for rapidly getting seed to germinate and leaf cuttings to sprout new buds. He is also concerned with acquiring seed of rare CP to preserve the genetic stock and to distribute this seed to experienced growers so that some remnants of rare plants may exist in cultivation.



J.A. Mazrimas.

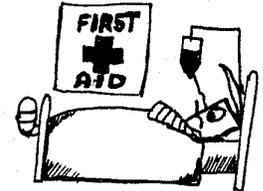
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The newsletter remains a standard for reliable information on carnivorous plants both from the research laboratory and from individual growers themselves. It is a forum for new and old ideas about these plants but most of all it is a periodical for newsworthy items that come from many sources and are shared with readers to enable them to use that information to grow their plants better. That is the primary purpose of CPN and we hope to do better in the future.



# FIRST AID.



It is planned to devote this section to the solving of problems that growers may encounter within their C.P. collection. We ask you when writing in to this page to keep as brief as possible while still retaining a clear picture of your problem. All mail received for this column will be answered in each following issue. Where an urgent personal reply is requested, please ensure you enclose a stamped addressed envelope.

Editor.

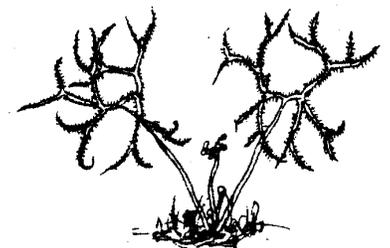
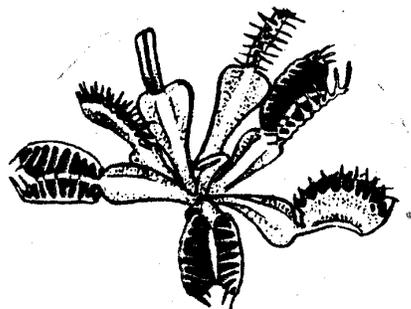
JOHN GRAHAM OF BRISBANE WRITES: I have found that in late summer and early autumn that some of my *Drosera* become hosts to colonies of Aphids. What is the best treatment for these infested *Drosera*? Also some of my peat mixture when used as potting medium gets gradually covered in a layer of green globules (pass algae). How can this be eradicated?

ANSWER: The best method I have found so far for the control of Aphids is by spraying with Metasystox. Extreme care must be taken when using as it has very powerful gases.

There is no long term solution to eradicate algae. To stop it building up, give the soil severe leaching using fine spray, also don't stand pots in water. The only other alternative is manual eradication. Fortunately, algae does not kill plants, so unless it is covering the plants you need not worry too much. Using rain or de-ironised water will aid in preventing algae build up.



*D. binata* var. *multifida*



*D. binata* var. *multifida* (Extrem

HOW DO I GROW MY DROSOPHYLLUM?  
By Stephen Jackson.

*Drosophyllum lusitanicum* is a short lived perennial from dry areas in Morocco and the hills of Portugal. Once it is established, it's beauty and unusual structure makes all the trouble of raising the plants well worth while.

Plants of this monotypic genus, are usually very hard to come by among c.p. collectors, so the only alternative is to get hold of some seed from c.p. growers, commercial seed collectors or c.p. seed banks such as the U.S. C.P.N. and perhaps later from our own seed bank.

Before you think of planting your seeds, there are a few methods that you can use to help speed up and improve germination. The first two involve mechanical scarification of the seed coat. This can be achieved by rubbing the seed with fine sand paper. It is important when using this method, not to sand right down to the white endosperm (seed contents) or you will find that fungi will infect and kill the seed. The other method of scarifying the seed coat is simply by nipping the very tip of the narrow end of the seed, off with a razor blade, nail scissors or some such. After the scarification, the seed should be soaked overnight in warm water. The other method involves scarification by hot water. Just put the seeds in a container and pour on hot water just under the boil, and leave overnight.

Sow the seeds on sphagnum, which must be dead, or it will smother the seeds later on. Give the seeds and the sphagnum a spray with 1/2 strength 'Benlate' and cover with glass, but leave an air space for ventilation. The next step is to wait, very very patiently, perhaps you may have to wait for up to 18 months. Over this time the medium must be kept moist, but not wet or the seeds will rot. When the seedlings emerge, let the medium dry out between waterings, as this plant damps off extremely easily when young. An incredible fact is that very often all the seedlings emerge at once, which is remarkable over such a long period of time.

It is best to sow the seed where it is to grow, but if you wish to put the seedlings in individual pots, prick them out when 1/2" high making sure not to damage roots or the plant will die. Watering should follow the same lines for the rest of the plants life as it did for the seedlings Don't be scared to let the medium get bone dry once in a while, it does no harm, and probably mimicks the plants native habitat more exactly.

Once the plant is over 4" high, your well on your way, and damping off is fairly unlikely. After 12 months or more of growth, your plant will most likely flower producing lots of 1" yellow flowers, which set seed fairly readily. The ripe seeds can then be harvested and the process can start again, so that you can have a continuous display of *Drosophyllum*.

Your *Drosophyllum* will grow quite fast for two, three and very rarely four years, but then old age will get the better of it. Gradually the plant will lose vigour and die slowly, from the bottom up. It's a pity after all the care and time you give to growing this beautiful plant, that it must only have such a short life. But don't let that put you off trying it, you'll be more than amply rewarded for your trouble.

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BOTANIST'S CORNER.BIOLOGY OF AUSTRALIAN TUBEROUS DROSERAS.

By KINGSLEY W. DIXON AND JOHN S. PATE.

The predatory palate of sundews has aroused interest since the time of the first ethnobotanists. Gerard's Herbal of 1597 listed a host of bodily remedies attributable to the mucilage secreted by *Drosera* tentacles. Countless authors since then have pondered the mechanisms, benefits and extent of plant carnivory. Amongst the plant world no other group has been subjected to media distortion to such an extent as the carnivores. Magazine articles in the late nineteenth century often cited lurid observations of exotic man-eating plants. Unfortunately only sensationalized line drawings exist as evidence of young maidens falling foul of these demonic plants. Needless to say an excursion into the bush will not be fraught with fears of being accosted by marauding sundews. Quite the contrary, many of them exhibit showy blooms atop tall slender stems with leaves displaying a myriad of mucilage drops - lethal to most insects but otherwise completely harmless.

Western Australia contains a superabundance of carnivorous plants. Over half of the known ninety species of *Drosera* occur in Western Australia and a much larger proportion of the tuberous species are endemic to this region (de Buhr, 1978). One typical example is *D. erythrorhiza* a conspicuous rosette species of the winter flora of the coastal sandplains of South Western Australia. It is a member of the subgenus *Ergaleium* and dies down each summer to a subterranean tuber. Each season a new tuber is produced directly into the cavity of the old expended tuber, the successive years of 'skin' or epidermis of the parent tubers building up layers of protective sheathing around the tuber. By counting these sheaths around the tuber it is possible to obtain a minimum estimate of the age of the plant in years. Tubers can be sheathed by up to fifty epidermal layers in plants from certain habitats, up to 20 layers is more usual. The protective sheaths enable the tuber to resist a temperature of 60 C for up to four hours and no doubt enhance its capacity to avoid desiccation in the long hot summer. *D. erythrorhiza* will flower only after a summer fire, releasing the small, ornamented seeds in late autumn. Germination, though a rare event, occurs in nature only in seeds older than three years. Experiments using a variety of conditions failed to produce any germination of one and two-year old seeds. Seeds of greater age have not been subjected to experimental testing. A single plant of *D. erythrorhiza* can produce up to thirteen daughter tubers each season, each tuber forming terminally on a swollen lateral rhizome developing horizontally from the parent stem. These daughter tubers sprout to produce small plants the following winter and produce full sized leaf rosettes after three or four seasons of growth. If lateral rhizomes are removed from the parent plant before forming their tubers and stored in pots of moist sand, they will then develop small tubers indicating that the process can occur without further nutrients or stimuli from the parent. *D. erythrorhiza* exhibits a circular conformation of its colonies, each group of plants up to 2 metres in diameter and containing up to two hundred individual plants. Clones may merge to produce a continuous lawn of glistening rosettes which at the height of winter comprise a veritable grave-yard of digested insect corpses. Preliminary studies indicate that *D. erythrorhiza* can obtain a significant portion of its annual requirement for nutrients (particularly nitrogen for protein manufacture) from trapped,

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digested insects. Other nutrients (eg phosphorus, magnesium, potassium) gleaned from insects and soil, and starch formed in photosynthesis of the leaf rosette, are conserved in tubers from season to season, and., certain nutrients (eg phosphorus and nitrogen) are mobilized from vegetative parts to developing tubers at the end of the growing season with over 80% efficiency. A plant can therefore survive a poor season without any additional nutrient imports. In pot culture no loss is observed in plant vigour when tubers are grown with distilled water in nutrient-deficient white sand. Vigour was however reduced in consequent seasons. In the wild, tubers are replenished with phosphorus and other nutrients after a season's growth in soil enriched with nutrients from the ash of the fire.

Under extreme nutrient, water and temperature stress a plant can respond by mobilizing the reserves of its parent tuber into daughter tubers, locating these up to 15 cm from the parent tuber. This strategy allows the clone of plants to exploit new soil profiles for nutrients in ensuring seasons of growth. Repeated severe drought can result in complete death of clones, as occurred recently in Western Australia in the dry seasons of 1976 and 1977. Plants developing from daughter tubers often relocate their subsequent replacement tuber at progressively greater depths by production of a vertical stem or dropper which grows through the base of the parent tuber. Eventually, after a depth of 8-11 cm is reached the plant replaces its tuber in situ, to give the sheath-enveloped tubers typical of mature plants, as mentioned above. Seedlings engage a similar depth seeking system of tuber replacement and because of the high temperature and dryness of the upper soil layers there is high mortality of seedling plants over the first few summers, when the tubers are still relatively high in the soil profile. Although the studies to date have concentrated on *D. erythrorhiza*, many other members of the sub-genus *Ergaleium* show corresponding strategies, although habitat differences are vast. For example *D. bulbosa* (an Eastern States species" and *D. gigantea* (from Western Australia) will often grow completely submerged in water in swampy depressions, whilst *D. stolonifera* and *D. macrantha* (Western Australia species) are typical of very dry habitats. Many of the tuberous *Droseras* can be grown from seed or daughter propagules and some produce showy flowers in pot culture (eg *D. bulbosa*, *D. macrophylla* *D. stolonifera*). *Drosera zonaria* grows well in pot culture but like *Drosera erythrorhiza* requires fire before flowering. Our experience with the Western Australian sand plain *Droseras* is that their tubers should be stored dry in pots of sand throughout summer. Gradual addition of water to pots in early autumn will promote early rosette growth and, in certain species, flower production.

Although flowering of *D. erythrorhiza* in nature requires burning of the habitat, removal of tubers from soil and storage in closed paper bags for a week or so, followed by replanting, can result in up to 20% of the tubers producing inflorescences. Burning litter on the soil surface of plot grown plants will, if sufficiently hot, induce flowering. However, the addition of cold ash to non stimulated tubers has no effect. Studies are yet to confirm the nature of the stimulus caused by fire. Ethylene concentrations in soil during and after fires may well be a key factor in initiating floral primordia. (Smith, 1977).

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Not all tuberous *Drosera* are amenable to cultivation. *D. gigantea*, a branched erect species up to 1½ metres tall, inhabits swampy ground and its large tubers (up to 2cm in diameter) are often buried up to 70 cm deep, usually at the base of a layer of silt or sand overlapping a clay pan. These conditions would be difficult to simulate in culture. The reader is referred to the articles listed below for further information on the taxonomy and biology of Australian tuberous *Droseras*.

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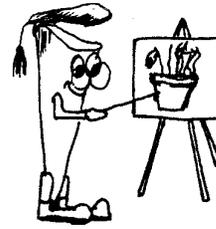
**SPECIAL NOTE:**

The C.P.N.A. would like to acquire humorous type cartoon sketches depicting C.P.'S. for the newsletter. Sketches to be around the size of the cartoon on this page or smaller. As an incentive Exotic & Bizarre Plant Nursery will donate each quarter, for the best cartoon received, \$ 15-00 worth of carnivorous plants.

Editor.



# BEGINNERS PAGE



Due to the response to the newsletter by many newcomers to C.P. growing, we have decided to start this section with the basic culture requirements of c.p.'s in general, and then to continue each issue with detailing the culture of each individual genus.

Most carnivorous plants are not difficult to grow, and given the correct environment, good water, sufficient lighting and tender loving care, your carnivorous pets will give you a source of pure enjoyment for many years.

Pure Water is, we believe, one of the most important requirements in c.p. growing, and the use of rain or de-ionized water against town water with its normally high salt and mineral content, will give an amazing difference in plant growth rate and health. If you find it necessary to use local supply water, it is essential to leach your pots at regular intervals, to halt the build up of salts etc from around the plants root systems.

Light. Although some species require more shading than others, correct light is very important to your plants. Natural light has the proper intensity and spectral composition for your plants. If your plants are grown indoors in a terrarium, then steps should be taken to ensure they receive as normal daylight hours as if they were outside. A low cost time switch connected to a fluorescent light, using grow-lux tubes, and timed to run around 10 hours a day, will produce satisfactory results.

Humidity is essential to most exotic c.p.'s. It is comparably simple if you grow in a hot or green house, however, if grown indoors in a terrarium, care should be taken not to let the plants dry out. The most success we have had with indoor growing, is by using a fish aquarium, with about 1" of water in the bottom and the pots placed on a mesh frame just above the water line. Some c.p.'s prefer to be placed in the water, we will delve into these varieties in a later issue.

Potting. As an inexperienced grower it is better for you to use pots with good drainage rather than the drainless system which can induce rot and the eventual build up of salts unless managed correctly. Watering more often is required by the first method, but you would be ensured of more success. Soils for c.p.'s should be loose, lacking in salts and nutrients and highly acid. By far the best medium to use **in** most cases, is live sphagnum moss. Live sphagnum naturally maintains acidity and a low level of salt and nutrients, and has extremely good water holding quality. The second choice for a growing medium is pure peat moss, and we believe the best on the market is the German variety, available at most garden centres. Always ensure your peat moss is kept very wet. It's also a good idea when using peat, to lay around the top of your pot a thin layer of sphagnum moss, which will indicate lack of sufficient water by the green tips browning off.

BEGINNERS PAGE CONT.

Dormancy. All temperate c.p's must have a dormancy period which occurs in the coldest months of the year. Many disappointments with c.p's could have been averted by allowing the plants to realize their dormancy. The best method is to remove the plants that require a winter rest, from the collection, and place them under the bench and slow the watering down to about once a week until the start of spring, when with normal watering, they will bounce back, bigger and more beautiful than ever.

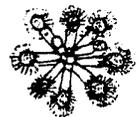
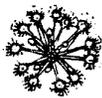
Fertilization. We must stress caution with new growers of c.p's, in the use of fertilizer on your plants. It is better to not fertilize, than over fertilize. It is important to understand that c.p's will grow well year, after year, planted in the correct medium, without the need of either fertilizer or insects. It is recognized however, that if lightly fertilized, plants will grow healthier. Most experienced growers have their own tried and true methods for feeding their plants, which vary from grower to grower. The method we have found most successful, is by using "Fish Emulsion" fertilizer, diluted 10 to 12 times the recommended strength. For example, we use half a capfull to two gallons of water.

Application can be by a fine hand spray on the foliage and around the base of the plant. Once again don't overdo it, it is better to use to little than to much. If however, you don't wish to risk damage to your plants by fertilizing, especially if you have only a small collection, then the best method is to place your plants outside on a warm day, and let them catch the fertilizer that nature has supplied for them.

One last point, we do not advise feeding meat to your plants as over feeding can occur and cause the death of your plant.

Good Growing, Editor.

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NOTICE

Any help with this section from experienced growers would be appreciated and would certainly ease our work load. The aims are as previously outlined, to give new growers an insight into the growing of each species, starting next issue with Dionaea then following with Sarracenia, Drosera, Pinguicula, Nepenthes and Utricularia.

When contributing to this section please keep write-ups to one foolscap page, where possible.

Editor.

# TRADING POST.

BUY                      TRADE                      SELL



When sending in Want Ads, please print clearly name and address, in order to eliminate mistakes. Full botanical names should be submitted with all ads, where a new grower is uncertain of correct name, common name may be sent in, but will be correctly named in advert. Please mark clearly whether you wish to BUY, SWAP or TRADE. Adverts from commercial sources will not be accepted except where a private collection is involved.

Keep strictly to your trade agreements and where possible answer all replies promptly. The editors feel very strongly on this point and continued abuse of this rule, may cause the person responsible to have their name published.

ALAN & LYN WORLAND. 13/2 PEARSON ST, BALMAIN EAST, N.S.W. 2041. Would like to Buy a plant of *Darlingtonia Californica*.

STEPHEN CLANCY. PEAKE GULLY RD, ATHERTON, O.L.D. 4883. Wishes to Trade *Drosera prolifera* & *Drosera petiolaris* for *Nepenthes* plants, seedlings or cuttings.

TOHN GRAHAM. 8 WARUNDA ST, BRACKEN RIDGE, BRISBANE. Q.L.D. 4017. Would like to correspond re the purchase of *Sarracenia - Drosera Nepenthes - Darlingtonia Pinguiculia - Byblis - Utricularia - Plants* needed for the expansion of my private collection.

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## AUSTRALIAN

PLANT & SEED ----- SOURCES.

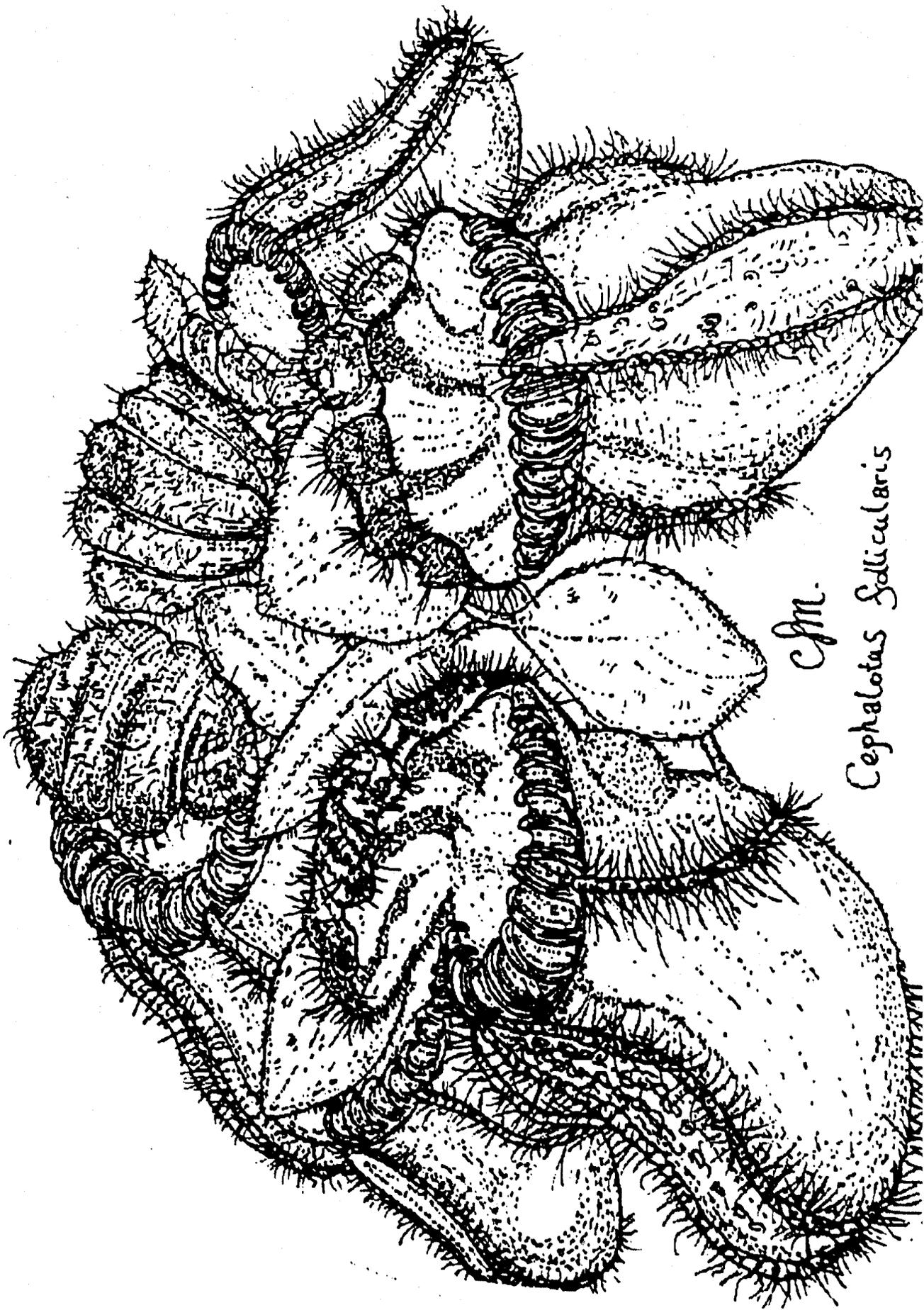
<u>NAME &amp; ADDRESS</u>	<u>CATALOGUE</u>	<u>GENERA</u>
CARNIVOROUS & UNUSUAL SEEDS. 3 Normandy Ave, PARA HILLS, S.A. 5096.	S.A.E.	Carries a good variety of seed only.

FRED HOWELL who runs this business from his home, tells us that he has been a hobby grower for 1 1/2 years and appreciates the importance of selling viable, correctly harvested and stored seed, bought only from reputable dealers mostly in the U.S.A. and states that though he sells only on a part time basis, nothing is too much trouble and no order to small.

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EXOTIC & BIZARRE PLANTS. Wandena Rd, BULLSBROOK EAST. W.A. 6084.	SEND 20 STAMP	Dionaea-Nepenthes Pinguiculia-Drosera Sarracenia- Cephalotus- & most C.P. Seed.
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*Cephalotes follicularis*